

were available for 69 Consultants (82%) and 40 Registrars (98%).

**Results:** Seventy three percent of orthopaedic surgeons participated in snowsports (70% Alpine skiing and 14% snowboarding). The average experience was 16 years for skiing and 5 years for snowboarding. 62 skiing and 7 boarding injuries were reported. Injuries were sustained on average every 19.6 years skiing and 10.6 years boarding. 26% of snowboarders had sustained a forearm or carpal fracture. Medial collateral knee (22%) and ulna collateral thumb (16%) ligaments were the most frequent skiing injuries. Injuries led to an average of 0.7 days off work per year boarding and 0.2 days per year skiing.

**Conclusion:** There is a high level of participation in snowsports among orthopaedic surgeons. A significant number of injuries are sustained, some of which are potentially serious and may affect the ability to work. Snowboarding would appear to be associated with a much higher risk of injury than alpine skiing. While snowsports would appear relatively safe, surgeons participating in such activities should be aware of the risks and take steps to minimise them.

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#### **Antegrade humeral intramedullary nailing: Nervous about distal locking**

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Antegrade humeral intramedullary nailing with distal locking risks injury to the radial nerve (lateral to medial locking (LM)) and risks injury to the cutaneous extension of the musculocutaneous nerve (anterior to posterior locking (AP)).

In previous studies, the exact course of the radial nerve has been measured in relation to the lateral epicondyle, and it has been suggested that external rotation of 20° when undertaking distal locking may decrease the incidence of nerve injury.

With this in mind, the nerves about the distal humerus were examined in 12 limbs (6 paired cadaver arms).

Using the manufacturers standard technique and instrumentation for the "Polarus plus nail", antegrade humeral nailing was performed on 12 limbs.

Initially distal locking was performed in the standard fashion AP and LM. This was then repeated with the nail externally rotated 20°.

The results showed that external rotation of 20°:

1. Decreases the risk of injury to the radial nerve (LM locking).

2. Increases the risk of injury to the musculocutaneous nerve (AP locking).

The increased risk of injury to the musculocutaneous is due to its shallow oblique course across the anterior aspect of the humerus.

Further observations include:

1. The more distal the LM locking the safer the radial nerve, irrespective of the rotation of the nail.
2. The margin of safety in AP locking increased the more distal the locking in the AP plane with the nail in neutral rotation. However, with external rotation this was not the case.
3. Internal rotation of 20°, put the radial nerve at increased risk, but made distal AP locking safer.

However on the "Polarus plus" nail proximal locking has an oblique option and with internal rotation of 20°, proximal oblique locking occurred through the bicipital groove.

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#### **Early results of the T2 proximal humeral nail in treatment of 3 and 4 part fractures of the proximal humerus**

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**Introduction:** Proximal humeral fractures are a common debilitating injury accounting for 4–5% of all fractures. Currently treatment of these fractures has included conservative, ORIF and joint replacement. The T2 proximal nail is a new fixation device, which requires minimal dissection and allows early rehabilitation.

**Method:** Twelve patients (4 male; 8 female), mean age 62 years (range 41–76) with Neer 3–4 part fractures underwent fixation with the T2 proximal humeral nail. All patients were operated on by one of two specialist shoulder surgeons and followed-up in clinic. The mean follow-up time was 12 weeks (range 7–23).

**Results:** All fractures had united radiologically at 8 weeks. At time of follow-up the average ASES score was 64 (range 27–100). All patient's incisions healed satisfactorily with no complications. Pain on the visual analogue score was <3 in 75% of patients with 33% reporting no pain at follow-up. One patient has had the nail removed after union due to impingement of the metal work.

**Conclusion:** Early results of use of the T2 proximal humeral nail are promising in this difficult fracture.